

REMARKS

The August 2, 2005 Final Office action rejected claims 1-4, 9-14, 16-18, 21-26 and 28-50 under 35U.S.C.102(b) as anticipated by Severson et al. ('431), claim 5 under 35 U.S.C.103(a) over Severson et al. ('431) in view of Borza et al., and claims 19, 20 and 27 under 35U.S.C.103(a) over Severson et al. ('431) in view of Severson et al. ('318). In response, the claims of the present application have been amended to clarify patentable features of the invention.

Rejected claims 1-4, 9-14, 16-18, 21-26 and 28-34 all call for "...generating a plurality of simpler sound events in a sequence of simpler sound events, with repetitive occurrences of at least some of said kinds, and with at least some kinds of said simpler sound events in said sequence having random time delays between their initiations...", either directly for claim 1 or through a dependency from claim 1. Claim 35, and by incorporation its dependent claims 36-48, employ similar language but do not include the requirements for repetitive occurrences or for "at least some kinds of" said simpler sound events having random time delays between their initiations. The Examiner apparently interpreted the phrase "random time delays" as applying to the Severson et al. ('431) technique (described at column 5, lines 13-30) of randomly varying the time delays between sound segments of the same kind. (For purposes of this Amendment, the terminology "simpler sound event" as used in the present application and "sound segment" as used in Severson et al. ('431) may be considered to be interchangeable.)

Although the time between repeats of the same kind of segment is varied randomly, it is clear from Severson et al. ('431) that the time at which each immediately successive segment in the overall sequence begins is right at the end of the previous segment. Accordingly, there is no randomness as to when immediately successive segments occur in time; randomness attaches only to the time delays between repeats of the same kind of segment.

The term "random time delays" was intended in the previously presented claims to refer to the fact that the time delays between the triggering of immediately successive segments (one segment and the immediately preceding or following segment) are random, as opposed to Severson et al.'s. predetermined segment trigger times at the end of each immediately preceding segment.

However, upon a review of claim 1 in its form prior to this Amendment, it can be understood that "random time delays" could be read as referring to the time delays between segments of the same kind, rather than between immediately successive segments regardless of their kind, as intended by applicants. Accordingly, independent claims 1 and 35 have been amended herein to recite "random time delays between the initiations of immediately successive simpler sound events in said sequence, independent of the kinds of simpler sound events embodied by said immediately successive simpler sound events".

In Severson et al. ('431) a series of sound segments, which may be chosen randomly, are taken from an otherwise continuous sound and re-assembled into a continuous sound

sequence. Each segment begins right after the end of the immediately preceding segment, with no overlaps or gaps between immediately successive segments. By contrast, in the preferred embodiment of the present invention, simpler sound events are combined together with random time delays between triggering the initiations of at least some of the immediately successive simpler sound events in the sequence. This can result in multiple sound events overlapping, or in gaps between successive events, unlike Severson et al. in which the sound segments are continuous and sequential. Although Severson et al. refers to the possibility of "silent pauses" between sound segments, such pauses would be deliberately inserted and not the result of any random selection (column 2, lines 46-48).

A more detailed description of the above summary for the Severson et al. operation is provided in the patent as follows:

-Column 2, lines 33-36: "Then these independent segments are re-assembled into a continuous, never-repeating sound sequence based on selecting the next sound segment according to some statistical algorithm."

-Column 2, line 60-67: "In general, the method includes... selecting one of the sound segments according to the probably density function; playing the selected sound segment; and repeating said selecting and playing steps thereby generating non-looped continuous sound." (emphasis added)

-Column 8, lines 63-66: "To further increase the depth and realism of continuous sound animation it is possible to have one or more aspects of the sound generation and sequencing be responsive to various events or inputs."
(emphasis added)

-Column 11, lines 33-37 (RSS implementation): "When the Digital Sound Generator, 306, is finished with playing out the present sound record, it will accept the new address, and request from Sound Memory, 307, the sound record at the address in Address Latch, 305."

-Column 11, lines 59-61: "If there is more than 1 sound record in the memory, 307, then this embodiment will play a continuous series of sound records that will be randomly sequenced..." (emphasis added)

-Column 14, lines 3-5: "Summary of New Concepts
1. The concept of randomly sequencing a set of sounds to produce a never-repeating continuous sound effect."
(emphasis added)

Support for the random distribution of times for the initiation of immediately successive simpler sound events with the present invention, independent of the kinds of events, is provided in the specification as follows:

-Page 6, line 24-26: "The trigger process selects a random time lag between subsequent events that make up the large-scale or complex events."

-Page 7, lines 3-8: "For example, ambient sound such as cricket chirps are typically generated at a constant

average rate. That is, while the time between individual chirps fluctuates randomly to provide a natural environment, the average time between chirps is constant over a large time period."

-Page 8, line 3 - page 9, line 14: "There are two main embodiments of the trigger process, both of which are characterized by a particular statistical distribution of the time between individual events. In the embodiment of FIG. 3A, the trigger process samples white noise and generates events when a strongly low pass-filtered noise signal crosses zero in an upward-going direction... An alternative embodiment of the trigger process is illustrated in FIG. 3B. In this embodiment, event generation is based directly on predefined random distribution. After an event is generated, a random generator selects a value of the time delay, Δt until the next event should be generated. After the selected time delay passes, a new event is generated. This new event then triggers the random generator to select a time delay for the next event according to the predefined random distribution."

Independent claims 1, 35 and 50 have been amended herein to require that the simpler sound events be generated in a sequence with random time delays between the initiations of immediately successive simpler sound events (claims 1 and 35), or random time delays between the triggering of immediately successive simpler sound events (claim 50). They have been further amended to require that the random time delays be "independent of the kinds of simpler sound events embodied by said immediately successive simpler sound events". This

directly contrasts with Severson et al. ('431), in which the relative timing of immediately successive sound segments is predetermined, and the randomness is for repeats of the same kind of second segment. Claims 1, 35 and 50, along with their dependent claims 2-5, 9-14, 16-34 and 36-48, accordingly patentably distinguish over Severson et al. ('431). The remaining independent claim 49 now requires respective time delays between the trigger times of at least some kinds of successive sound events that are independent of the kind of simpler sound events embodied by said at least some simpler sound events, and that are also independent of the durations of said simpler sound events. Claim 49 accordingly also patentably distinguishes from Severson et al. ('431).

Claims 6-8 were previously allowed. While claim 5 was rejected over Severson et al. ('431) in view of Borza et al., and claims 19, 20, and 27 were rejected over Severson et al. ('431) in view of Severson et al. ('318), distinguishing over the principal reference Severson et al. ('431) also makes these claims patentable.

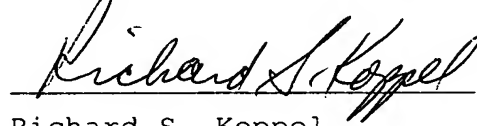
There is an independent basis of patentability for claims 16-28. These claims require that the simpler sound events be characterized by parameters whose values are randomly varied among the simpler sound events, for at least some kinds of simpler sound events. Examples of such parameters are given in claim 14 as wave selection, pitch distribution, pan distribution and amplitude distribution. Neither Severson et al. ('431) nor any other references known to applicants disclose or suggest this feature.

Appl. No. 10/040,653
Amdt. dated February 7, 2006
Reply to Final Office action of November 22, 2005

Since all claims remaining in the application have already either been allowed or are now in allowable form, a Notice of Allowance is respectfully requested.

Dated: 2/8/06

Respectfully submitted,



Richard S. Koppel
Registration No. 26,475
Attorney for Applicants

KOPPEL, JACOBS, PATRICK & HEYBL
555 St. Charles Drive, Suite 107
Thousand Oaks, California 91360
Telephone: (805) 373-0060
Fax: (805) 373-0051
(U:MR\RSK\Amendment\A1SJ1888US)